

A N A N A S:

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T R E A T I S E

O N T H E

P I N E - A P P L E.

I N W H I C H

The whole CULTURE, MANAGEMENT, and
PERFECTING this most excellent Fruit,
is laid down in a clear and explicit Manner.

To which is added,

The true Method of raising the finest MELONS
with the greatest Success: shewing the whole Pro-
cess of their Management, from sowing the Seeds
to ripening the Fruit.

The Whole deduced from many Years Practice and
Observations; and containing various Improvements
in the Culture of these Plants never before published.

Illustrated with a Curious COPPER-PLATE, in which is
exhibited at one View, a STOVE, &c. peculiarly
adapted for raising the Pine-Apple Plant.

By JOHN GILES, GARDENER,
At LEWISHAM, in KENT.

Experientia docet.

L O N D O N:

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A N A S :

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P I N E - A P P L E

THE PINE-APPLE, MANUFACTURED AND
PREPARED FOR THE MOST EXCELLENT USE
OF THE HUMAN BODY AND THE MIND.

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T H E

P R E F A C E.

THOUGH the art of gardening has of late years received many improvements, through the care and ingenuity of several eminent gardeners; who, with unwearied pains and assiduity, have brought various kinds of tender exotic plants to a degree of perfection in this country, which, a century ago, would have been deemed impossible to be effected: every year producing some new improvement in the vegetable kingdom. But, at the same time, I cannot help observing with regret, that the losses and miscarriages of plants are by

far more numerous (through the ignorance and obstinacy of many gardeners) than the advances toward bringing them to perfection : for it is well known, that the frequent damages and losses attending those most excellent fruits, the pineapple and melon, are owing either to the carelessness or injudicious management of those persons, who, with a singular effrontry, undertake to raise them in the highest perfection.

Notwithstanding the directions given by several authors, as Miller, Hill, Meader, &c. who have endeavoured to elucidate and explain the method whereby these fruit are to be raised and perfected ; yet, upon several trials made by divers gardeners, according to these authors directions, the success has always fallen much short of their expectations.

For these reasons, in the following sheets, I present the public with full
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and explicit directions for the management and bringing to perfection the pine-apple and melon : in which all the obstacles and difficulties which gardeners have met with in raising these fruits are remedied, and the true method and management pointed out in a clear and conspicuous manner.

I beg leave to inform the public, that this work is not a hasty production ; but the result of many years real practice and observations, from various and repeated trials. By the perusal of which, the gentleman who requires these fruits to be raised, may readily discover whether the abilities of his gardener are adequate to the task he has engaged to perform : he may, from hence, easily see if the gardener (in the management of these plants) is pursuing any wrong method, by which the success of the plants may be doubtful ; and, by observing the di-

directions herein contained, may prevent any losses of this kind, before it is too late. By this means, the gentleman will be recompenced for the expences he has been at, and the gardener gain reputation.

This treatise may also be found of more real advantage to a young unexperienced gardener, than his giving a premium of five or ten guineas to a mercenary old one (who perhaps might have had some practice with a trifling degree of success) to learn, what? why, to spoil his plants; with the loss of both money and reputation.

It was owing to these considerations, that I was induced to publish this work to the world. The fruits here treated of are too valuable and expensive to be trusted to the management and direction of every pretender to gardening. And I entertain not the least doubt, that if
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any persons follow the directions herein pointed out (which have experience for their basis) they will find their account in it, and have their most sanguine expectations fully gratified.

I have omitted in this work the botanical characters of the flowers; as those of the pine-apple are so trifling as to be noticed by few people, except botanists: and the flowers of the melon are so well known, as to stand in no need of a description. My intention in this publication being more to instruct than amuse, is the reason why I have not treated on them.

I have presented my reader with a description of a stove, &c. for raising and bringing to maturity these plants; with a plate, whereby the whole is exhibited at one view; with proper references, &c. for the construction of such places, so as to render them not only useful but ornamental.

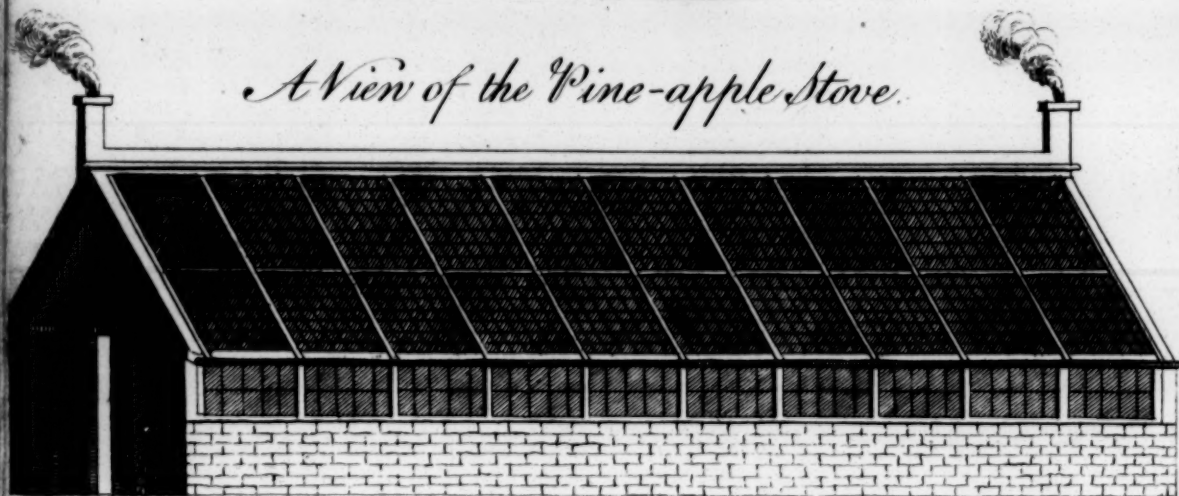
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From these premises, it is hoped the public will receive this production with the same candour they have ever shewn to all works tending to improve any of the arts and sciences. Which will be sufficient reward for all the care and trouble the author has taken in this Piece; and likewise be an inducement for him to elucidate, hereafter, some other subjects in the intricate parts of gardening.

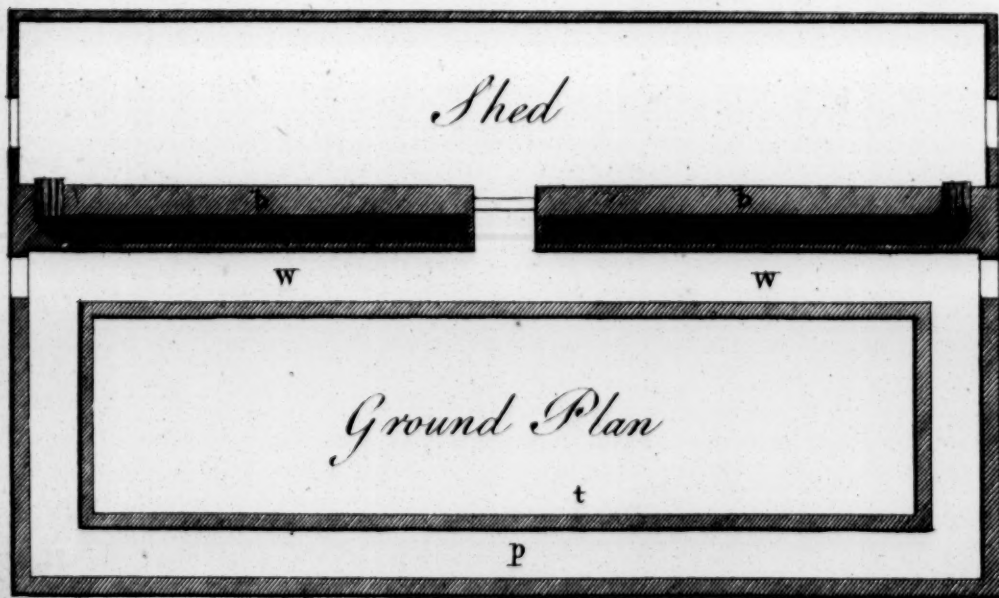
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A View of the Pine-apple Stove.

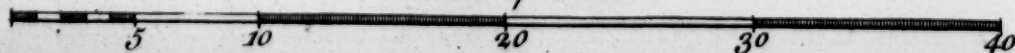


Shed



Ground Plan

Scale of Feet.



ON THE
CULTURE
OF THE
ANANA,
OR
PINE-APPLE PLANT.

THE excellency, fragrancy, and flavour of the fruit which this plant produceth needs no commendation, as it is well known to excel all the fruits hitherto cultivated ; so that it is no wonder every gentleman of taste and fortune is fond of this polite article of gardening.

The pine-apple plant is a native of Surinam, one of the hottest countries of South-America, and of some inland parts of Africa. There they grow in such quantities,
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tities, as to perfume the air some miles round with the fragrancy of their fruit. From these places the plants have been introduced into Europe : and first by the Dutch ; but was by them brought to little perfection for some time, till Mons. Le Cour, an ingenious gentleman of Leyden in Holland, hit upon a method whereby the fruit might be perfected. This soon became known in England, where all the arts and sciences receive improvement, particularly gardening ; and in this article so much, that at present we excel all Europe in its culture.

But as there is much skill wanting to bring this most excellent fruit to its ultimate perfection, both in magnitude and flavour, the following directions, resulting from many years experience, if strictly attended to, will, I am certain, obviate all those difficulties which gardeners have hitherto laboured under in the raising this kind of plant.

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There have been several varieties produced from seeds; but this is a tedious process, and, perhaps, after all, the fruit will be but trifling or ill-flavoured: therefore the best method of propagating these plants is, from the crowns and suckers of those which have produced good fruit.

The two principal sorts, which by all are allowed to be the best, and which we cultivate in England, are the oval-fruited pine, which was the first raised here and in Holland, and commonly called the queen-pine; and the sugar-loaf, or Montserrat-pine: the fruit of this last mentioned kind is not so certain of being produced in its proper season as the other, therefore is less esteemed by the gardeners; but it is reckoned to be superior in flavour.

For the cultivation of these plants in England, there are two necessary requisites to be considered: First, a bark-bed covered with a frame and glasses; which,

in the gardeners language, is called a pit; and, secondly, a larger house, called a stove: the one serves to raise the suckers and crowns to a proper size for bearing fruit, which takes up the time of two years; and the other for bringing the fruit to perfection. Now as both these buildings are absolutely necessary for the culture, preservation, and bringing to perfection the pine-apple in this northern climate, and as no plants which are natives of the torrid zone can exist here without such artificial aids, I shall present my reader with a plan and description of the most convenient and useful kind of stove and pit that can possibly be invented for this purpose.

First, of the stove, supposed to ripen one hundred fruit every year: *b*, the back wall, one foot two inches (See the ground plan); *f*, the flue, one foot; *w*, the walk, one foot nine inches; *t*, the tan or bark-bed, surrounded with a nine

inch wall; *p*, the path in front, one foot six inches, with a nine inch wall in front, and *b* the fire-places; the depth of the bark-bed three feet, and the width eight in the clear: the flues to be returned one over the other; the lower one three bricks set on edge, and the others two bricks (See the section); the upright glassess in front two feet and a half; and the slope glassess to make an angle of about twenty degrees; the glassess in front and slope to be about three feet six inches wide in the clear; and a doorway in the middle of the back-wall, separating the flues of each fire-place. At the back of this building, a shed should be erected for several convenient purposes; making the whole length forty feet.

This stove, as was observed before, is designed for bringing the fruit to perfection. But for the pit, which is to rear the young plants, I recommend the fol-

following one, that will certainly keep them in a growing state, which is the most material article in their management to obtain good fruit. In order therefore to erect such a place, there should be provided some found oak posts, which being fixed in the earth according to the proper dimensions of the intended pit, to them should be nailed planks of the same kind of wood, the bottom planks to be three feet from the surface of the earth, in front upwards; let three feet and a half of planks in height be on the north side, to form the back of the pit; which, with the back of the frame, placed thereon, the whole back will be six feet and a half above the surface; the front of the frame should be one foot six inches. This pit should be six feet and a half wide, and in length according to the quantity of plants it is intended to contain; which should be always in proportion to the stove where the plants
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are to be fruited after they are full grown; and therefore not much less in dimension than the bark bed of the stove. The bars of wood which support the glasses should be made neat, neither broad nor thick; for, if either, they will much intercept the rays of the sun; they must, however, be strong enough to support the glasses without bending under them.

In both places, the panes of glass should be laid in putty, and placed in an imbricated manner, so as to lay over the ends of each other. This method of glazing is much better than being laid in lead, and is also of greater service to the plants, for they will receive the benefit of the air between the squares of glass; and likewise those rancid vapours which arise from the fermentation of the bark-bed, &c. by being condensed against the glass, will be dissipated more freely. Good covering is also necessary for these places. For the stove, either canvas or
wooden

wooden shutters should be put on every frosty or cold damp night : but, for the pit, reeds tied together in the form of mats, as many gardeners practise in covering their cucumber frames ; and if the weather is severe, mats may be placed underneath these reed coverings, which will prevent the frost from penetrating to the plants ; the bottoms of these bark-beds should also be flat paved with bricks, to prevent the damps, &c. from rising that way.

Having said as much as is necessary concerning the structure, &c. of these buildings, the next thing that comes under our consideration is the article of tanners bark, which is so very essential, by its moderate and lasting fermentation, towards raising the pine-apple, that there is no material yet known which answers the purpose of hot-beds so well as this.

In chusing of bark, it should not be too large or too small ; as the first is
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apt to heat too violently, and the other soon becomes earth, and ceases to ferment; therefore the middling size is best. It should be moderately dried before it is put into the pit, otherwise it will cake and heat too much; it should also be turned over, and lightly shaken up, in order to bring it to a proper temperature of warmth.

Previously to its reception of the plants, it is necessary to screen all the bark in the beds annually, that the lesser parts may be separated from the greater, which is still fit for use; for if new bark be added to old, that is much decayed, without screening, it will not lay porous enough, and will therefore burn. When the old tan is screened, that part of it which is fit for use again, should be spread of an equal thickness all over the pit; then bring in a sufficient quantity of new tan to raise the bed to its proper height, which should be full

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three

three feet thick ; and with a proper fork (which is commonly made for the purpose) stir up the bark from the bottom of the pit, mixing the new and old well together ; which, if properly performed, will continue a moderate heat for four or five months. The best season to screen the bark is in the month of September ; for then the house will be most at liberty, the ripe fruit being near all cut ; and the beds will also be put into a good condition during the winter, which is a material article.

When these beds begin to decline their heat, some new bark should be added, to renew it again. Many gardeners lay their new tan in the beds in layers, and plunge the plants in old bark on the top of the new ; but this method cannot promote the welfare of the plants so much as when the bark is screened, and the new and old mixed well together ; for the fermentation is not so moist when

the pots are plunged in all old bark ; and when it is all new at the bottom, the roots are apt to be burnt by the bark heating too violently.

Having proceeded thus far, and the places being ready for the reception of the plants, I shall now explain their management ; and, first, shall begin with the small plants, commonly called crowns and suckers.

These are either procured in England, or brought from America. These last are precarious, as in long voyages they are almost perished before we receive them ; and in those parts the people are not over nice in chusing them ; I shall, therefore, confine my observations and directions to those which are produced in England.

I noticed, in the beginning of this work, that pine-apples were increased from crowns and suckers. The crowns grow on the top of the fruit ; and the

suckers issue from between the lower part of the leaves ; they are both fit to be taken from the parent-plant when the fruit is ripe ; the proper season for which is in the month of August.

It is easily known when the suckers are fit to be parted from the old stool, by their bottoms being changed to a brown colour ; also that part which is to be put into the earth at planting, by becoming hard, with the appearance of little knobs, which are the embryos of future roots : but if they are taken off before this sign of perfection appears, there is a necessity for them to be laid in a warm dry place, for their bottoms to harden before they are planted, lest they rot by immediate planting ; though this unskilful practice is too often used, either through the eagerness or ignorance of many gardeners, to the manifest detriment of the plant. To dry the crowns well

well is absolutely necessary, their bottoms being more replete with moisture than the suckers : it is also proper to clear off a few of the small leaves which surround their base ; but suckers which have stood their proper time on the mother-plant, may be taken off one day, and planted the next.

Those suckers which are not ripe by the middle of September, I would advise to let them remain on the plants which produced them until March following ; for they are very apt to rot, not only when taken off very succulent, but likewise if taken off later in the season than September. These, when ripe and fit for potting, should be planted in those pots called forty-eights, otherwise half-penny-pots ; this size is full big enough, unless the suckers be very large, as some few happen to be. The earth which they are planted in should be a rich hazelly loam, taken from a well-pastured common,

mon, or what is called virgin-earth. Notwithstanding the directions given by several authors to make compositions of various soils, I know, by experience, this answers much better, not only for pineapple plants, but for most other vegetables.

In planting, observe not to set them too deep, which is too often practised by many ignorant gardeners, thinking that they will more immediately receive the benefit of the warmth; which they will do; but they consider not the great detriment they receive otherwise.

The plants being potted, they should be properly arranged in respect to their different heights and sizes, so that they may be placed in the bark-bed in a theatrical order, the tallest plants in the back, and shortest in front of the pit; whereby they will more easily receive the benign influence of the solar rays.

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The bark-bed should be in a moderate temperature for their reception before they are plunged therein; but by no means let the heat be too strong, for that will force the fibres out so fast, as to render them small, to the very great detriment of the future growth of the plants; for the fibres, so quickly driven out, will be very succulent and tender, and the plants run a great hazard of receiving a check in winter; the consequence of which is, that they will fruit the next summer, and their production will be good for nothing.

The plants so far managed, should have air freely admitted to them in this season, at all times and opportunities, when it is mild; but this is to be proportioned in a judicious manner, as there are no precise rules to be given for it: a well graduated thermometer is a good direction for the unexperienced in this branch of gardening. I have found, by
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frequent trials, that thirty degrees above temperate on Farenheit's scale, is a good growing warmth for fruiting plants, but too strong for small or succulent ones, as they are apt to grow weak therein ; for when they are over-heated at bottom, they are forced up weak, with long leaves ; they also grow white in their hearts, and are made very tender thereby, and consequently very much prejudiced : and when they have too much heat at top, it frequently stops the juices from flowing so freely as they should do, and also blemishes the leaves with spots (a natural consequence when the perspiration is stopped) which must therefore be very hurtful to the plants. It is likewise detrimental to pine plants to stifle them up too close, and not give them proper air, which, as was before observed, should be admitted at every opportunity. The covering over of the glasses should also be in proportion to the warmth of the

the air, either thicker or thinner, as the cold or warmth may happen. The plants kept in this kind of pit will require but little water during the winter, as they have a moister fermentation than those kept in the stove.

When the winter advances so as to become frosty and cold, I advise the pit to be lined round with mellow horse dung, such as is used for cucumber beds in the spring, to the height of the tan withinside ; on the top of the dung continue to lay old hay, straw, or fern, where it can be had in plenty : which last may be cut when full grown, and afterwards stacked up for use. Either of these materials may be continued from the dung to the top of the frame all around. These linings of dung will keep the back constantly to a good degree of heat ; and the upper lining will also keep the cold from penetrating through the frame : but it must be observed, that when the heat of

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the lining declines, to add a sufficient quantity of fresh dung to the former, and stir it up together, which will renew the heat again to its former degree. This stirring the lining should be repeated as often as is necessary throughout the winter.

In the disposition of the pots, I have before directed to place the tallest plants behind ; it would also not be amiss to arrange them alternately in the rows, which will give them the advantage of receiving the air and rays of the sun more equally. Particular regard should be had that the heat of the bark be kept to an equal temperature during the winter season ; for on this the future success of the plants greatly depends.

Having by these directions conducted the plants through the winter ; towards the end of March begin to be less sparing of the admission of air, but yet to use caution in this respect ; for at that season

son they are very tender, by being so much confined all the winter; and at this time of year the weather is very changeable, sometimes the air is very sharp and piercing, at other times the sun shines very hot, the heat and cold often varying several times in a day: it is therefore more eligible to shade the plants with mats when the rays of the sun are too powerful, than to expose them to too much air; and this should be done occasionally throughout the spring, letting the plants be inured to both by degrees, which will greatly promote their growth. About the twentieth of April is the best season for shifting the young plants; at which time being properly provided with a good rich loamy soil, taken from the surface; not loam that is dug in deep pits, which is generally sour, and contains but few salts, and those harsh and unfit for such tender plants; something of a soft earth, that is fresh and untainted,

may be added to the former, so as to make a strong rich composition, which will neither crack nor bind, or separate like sand; neither should it be screened, but be previously turned over several times, that the parts may be better incorporated together: this earth will be better if it is prepared some months before it is wanted.

Before the planting, care should be taken that the pots intended for receiving the plants have holes large enough at their bottoms, also that the pots are clean within; for many slovenly gardeners plant in pots having much of the former earth adhering to their insides; the consequence of which is, that when the fibres of the plants reach to such earth, it greatly retards their growth.

The season being arrived for shifting, as before noticed, those which were in small pots should be carefully turned out and planted into pots of the next size larger ;

larger ; observing which of these are sound and in perfect health, and to preserve intire the ball of earth to which their roots are affixed ; but those which may appear any ways defective, to shake the earth from the roots, and trim off all those which appear not alive ; remembering also to take off all decayed or damaged leaves : being thus prepared, put a shell or piece of tyle over the hole at the bottom of the pot, which cover about an inch thick with well rotted dung, and a little of the prepared earth over that ; then turn the plant out carefully, and fill up the interstice between the ball of earth and pot with the same soil. Those plants which are a year older should be also shifted at this season ; these should be shaken out of the pots, and their roots cut off with a sharp knife, their bottoms well cleaned, and some few of their lower leaves stripped off, to give liberty for their roots to draw more freely, which are

frequently formed between the leaves in brown knobs; but not by any means to pull off so many leaves as to wound the plant; therefore a medium way is most eligible. The size of the pots these plants require, are those of which twenty-four are to the cast, or sixteen, according to the size of the plants. The pots being ready, plant the pines in the earth as before directed, pressing the earth moderately tight about them; and observe to renew the bark beds, if necessary, with some fresh tan, previous to plunging in the plants.

I have seen many ignorant gardeners bury their pots five or six inches below the surface of the tan, but I know not the reason for their so doing, unless it is to exclude the sun and air from that part of the plant on which the whole success depends: for the characteristic of a pine plant, likely to produce a fine fruit, is to have a large swelling bottom; but this
method

method has a contrary effect therefore I direct to plunge the pots no deeper in the bark bed than their rims.

If the heat of the sun should at this time be very great, it will be proper to shade them till such time as they have made new roots, as, otherwise, the sun will be hurtful to them. After they have been shifted about a week, give a gentle watering all over their leaves, which will wash the filth from them, and settle the earth to the roots: this water should be set in the stove a day or two, to take off the chill.

While the nights prove cold, continue to keep the glasses covered, and to give air each day according to the heat of the weather. It frequently happens in May that there fall warm gentle showers, which wonderfully promotes the growth of plants ; therefore when the pine plants have been inured to air after the time of shifting, if there happens to be a
 shower

shower of a warm mild nature, and the wind still, I would advise that the glasses be taken intirely off from the pit, that the plants may receive the benefit of the rain for an hour; then the glasses should be put on again, shutting them down close a little while; and if the sun shines hot immediately after, the plants should be shaded from its violence; but a little air may be given them before night. Try this, and the next day the appearance of the plants will give sufficient satisfaction for so doing.

The nights in June being generally more temperate than those of the preceding month, it will then be proper to water the plants on evenings; this should be done gently all over their leaves, a little each time, and frequently, which is better than to give it them in large quantities: yet if the weather proves hot, I would advise to let them have at this season of the year, a good soaking of water now and then

then, for the benefit of their roots ; or if a smart shower of rain should happen that is warm, I would not refuse their having the benefit thereof ; observing at all opportunities to admit a good share of air, whereby they will grow strong and large at the bottom, so as to enable them to produce good fruit the succeeding year.

Some time in the first or second week in July, when the weather grows more warm, I advise a bed to be made with bark, to contain all the last years crowns and suckers, allowing them sufficient room ; this bed may be covered with spare cucumber or melon frames, which are at liberty. This season, the plants which are intended to fruit the succeeding summer, may be taken out from the pit and placed again at a greater distance, observing to stir up the bark ; this will be of very considerable advantage to the plants, for by giving them room, the air

can circulate more freely round them; the neglecting of this has occasioned more damage to pine plants than any thing else. The small plants which have been moved into the cucumber frames, &c. should be kept freely growing, for a check now will be very hurtful to them, this being the principal season of their growth. But sorry I am to say it, there are too many gardeners who have pine plants under their care that never consider the proper season of growth, imagining that they should be in constant motion all the year.

If the weather is very hot in July and August, the plants should have a very large share of air, nay even so much as to be almost exposed abroad; for as this is their growing season, the allowing them plenty of air will establish the plants so well at their bottoms that there will be no necessity to check them in winter, in order to make them shew their
 their

their fruit; for I have seen many take their fruiting plants out of a warm bark bed about Christmas, and set them in the cold for two or three days and nights, then plunging them again: the intention of using this extream is, to make the plants form for fruit, which effect will certainly be obtained; but the result is, that this check will prevent their producing fine fruit; whereas by following the rules here laid down, there can be but little doubt of the plant's succeeding according to expectation.

As the hot weather decreases, observe to graduate the giving air and water in proportion. About the end of September the succession plants will be nearly full grown, at which time the bark bed in the stove should be got in readiness for their reception, the tan being raised about six or seven inches about the wall of the pit, to allow for settling about the middle of October.

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When this bed is a little settled, lay on a border of the same kind of earth as before mentioned, at about one foot six inches wide on the surface of the tan, intirely round the bark bed, which may be kept up withinside by planks, &c. the intention of this border is, to turn part of the succession plants out of their pots into it, which when they are brought into the stove, are then called fruiting plants. This border should be just so thick with earth as to contain completely the balls of the plants after they are turned out, allowing a reasonable distance, which in a pit that is capable of receiving an hundred plants, the border round will contain forty-six of them. One end of the border should be left unplanted till last, for the conveniency of filling the middle of the bed. When the border is done, bring in so much tan as will fill up the middle part of the pit; then the remaining plants should

should be shifted into pots a size larger, as may be necessary, and plunged in the tan at a reasonable distance.

The earth which is used for these purposes, should be put into the stove a day or two before it is wanted, that it may be warm; which is much better than to fill the pots up that the plants are turned into with cold earth. And it will not be amiss, if the empty pots which are to be used, were turned down on the bark-bed a day or two before using; as we cannot be too careful of the roots of the plants: for if the tender fibres should receive a check at this season, they will not readily recover it; for, frequently, such stoppages are the means of their shewing fruit before the proper time.

When the whole bed is compleated in a regular and proper manner with the plants, then the other parts of the stove should be made very neat; for cleanliness
is

is as necessary to plants as animals ; besides, it will give them a chearful appearance.

During this season, the glasses should be covered at night, in order to keep the stove in a proper temperature of warmth ; for at this time of the year, the morning frosts begin to come on.

In the beginning of November, it frequently happens that we have dark foggy weather, at which time it will be necessary to begin to make gentle fires at night in the stove ; but by no means let them be strong till Christmas is past (unless the weather should be uncommonly severe) but to keep a gentle, constant warmth. The best kind of fuel for this purpose, is turf or peat ; but where these cannot easily be procured, coals or wood must suffice.

In the month of January, begin to increase the fires in the stove gradually, in order to prepare the plants the better for

shewing their fruit ; which if they do in the beginning of March, it will be better than earlier ; for they will then have the best time of the year to grow and perfect good fruit.

When the bark-bed begins to decline its heat, the pots in the middle of the pit may be taken out, and that part of the bed renewed ; being careful not to undermine the border.

There are many people who object against turning the plants out before they shew their fruit ; for, say they, we cannot depend on the plants thus treated to shew their fruit at the proper season. But if plants are properly managed in August and September, there is no doubt of their fruiting in the spring, as well as those kept in pots. When the roots have reached the wall on one side, and the plank on the other (which they will do by the time of shewing) then the advantage of this method is discoverable,
by

by the wonderful progress the fruit makes in its growth, to what those confined in pots do.

When the fruit appears in the heart of the plant, great care should be taken to keep that part from wet. Also, when the fruit is in bloom, observe not to water over the top ; for moisture will deprive the generative parts of the flowers from performing their necessary functions ; and if the male dust is washed off before it has impregnated the pistillum or female part of generation, several tubercles of the fruit will not swell ; to the manifest imperfection of the whole fruit.

When the blossoms are past, and the fruit begins to advance in magnitude, then the plants may be watered all over without danger ; with this caution, however, not to do it in the middle of the day. In the spring and autumn seasons, the morning is the best time for watering

ing pine-plants ; but, in summer, the evening is preferable,

As the fruit increase in bulk, be sure to keep a good heat both at bottom and top of the stove ; also to repeat the watering as often as occasion may require, and to let the plants have fresh air admitted every day ; for by proportioning heat, air, and water, with judgment and care, the whole success of large high-flavoured pine-apples depends.

When the fruit are ripe, they change their colour to a beautiful yellow, and have a most delightful fragrant smell. If the stove should have too many fruit ripen at a time, or faster than they are wanted, a part of it may be shaded from the rays of the sun, whereby they will be kept back a few days,

The fruit, being perfectly ripe, should be cut in the morning before the sun shines on the stove, which is the best time, and laid in a sweet cool place ; but

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not where there are any aromatic scents, lest the fruit should imbibe their odorous particles, and render it disagreeable to the taste : and when brought to the table, the crown, which grows on the top, should be twisted off, and reserved for a new plant.

Before I quit the directions for the management of the pine-apple, I shall mention a danger to which the plants are exposed : This is a white insect, which preys on the leaves ; and, if not carefully guarded against, will destroy a whole house of plants in a short time. This insect seems to be peculiar to the pine-plant ; as I never could observe the same kind of animal on any other sort of plant. Where the plants are healthful, we see scarce any on them ; it is therefore only those poor ones, which are not in a proper state of health, that are infected with these creatures. It is the same with many other kinds of plants:

plants: we see our peach-trees, &c. which grow in a poor worn-out soil, frequently destroyed by vermin. On the contrary, where they grow free and luxuriant, nothing of this destruction happens. So it is with pine-apple plants; the vermin always attacking the weak ones: therefore, if the plants are well managed in the frame, as has been directed, there will be neither poverty nor vermin; for the moist fermentation is so very disagreeable to their constitutions, as to be almost immediate death to them. There scarce ever appears any of these destructive creatures on the plants which are kept without fire-heat; they being encouraged by the warmth and dryness of the air in the stove, and the bad state of the plants. But when it happens that the plants are become infected with them, care should be taken to clean the plants well at their bottoms each time of shifting, taking off all decayed leaves;

their lower parts being the place of refuge: also to destroy those which appear from time to time on the leaves of the plants. Some gardeners spread sulphur on the leaves, in order to extirpate the insects; but as that has a very disagreeable smell, which may be communicated to the fruit so as to affect its flavour, it is therefore much better to reject it. Others put tobacco-dust on the plants; this likewise helps to destroy the vermin; but, at the same time, it stops the pores of the leaves so much, as considerably to prevent perspiration: therefore, when the plants are once got thoroughly clean, the only way to keep them so, is to follow my directions, whereby they will always be in a state of perfect health.

Having now explained the whole culture and management of the pine-apple, I next shall present my reader with a clear and explicit method concerning the management, &c. of melons.

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The MELON is allowed by all judges of fine fruit to be little inferior in flavour to the pine-apple, although more common, and raised at less expence; therefore every good garden is incompleat where they are not cultivated. Though, it must be confessed, that as a good melon is an excellent fruit, a bad or indifferent one is quite disagreeable; and there are more bad ones raised than those which are really good. I therefore could not wonder much, when I have heard many people exclaim against them; though, perhaps, if they had tasted a fine flavoured fruit, their opinion of melons would have been quite otherwise.

The melon is a native of Persia, and the countries adjacent, from whence it was originally introduced into Europe. There are various kinds; but I shall only mention those which are most esteemed,
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and known with us by the names of the Romana and Canteleupe melons.

Different gardeners have various methods in propagating the plants which produce this fruit. I shall not trouble myself either in exposing or copying any of their ways of culture ; but shall explain to my reader the method I have always practised with the greatest success, and thereby have produced the finest melons.

The rules which I shall lay down, if strictly followed, will sufficiently recompence such persons for the labour and trouble they may have in raising and bringing to perfection these plants.

The first thing to be considered is, the procuring good seeds of the kinds which are intended to be propagated ; the next is the choice of a proper place where the plants are to be raised : this should be well exposed to the sun, and inclosed with a reed hedge, to break off the

the violence of the winds. This kind of fence is much better than either pales or walls ; as the wind will pass through it, and not reverberate ; which is the case with walls, whereby the plants receive more detriment than in an open exposure. This place should be intirely adapted for melons. In confined places where cucumbers are also wanted to be raised, it is necessary to make a division by pannels of reeds, running north and south ; for cucumbers should not grow too near the melons, as they are very apt to degenerate each other ; therefore they should be kept asunder as far as possible.

At the proper season, (of which hereafter) a hot-bed should be made, in order to raise the plants for the first crop. This bed should be made with fresh horse-dung ; but, before it is formed into a bed, it should be cast in a heap to ferment, that the rancid quality of it may

pass off in vapour. In about eight or ten days the dung will become sweet and mellow. In casting up this dung, the long and short should be well mixed together, that they may be nearly of an equal strength. Many gardeners make a practice to mix coal-ashes with their hot-bed dung, though there are few of them but know ashes to be an enemy to the roots of many vegetables, particularly those of melons; for this reason they should be rejected: besides, when ashes are mixed with dung, they will exclude the air from penetrating so freely as it should do; the consequence of which is, that the dung will burn, and therefore be very improper to make good hot-beds.

When the dung is become sweet and in proper order, then the bed should be made according to the size of the frames, one load to a light is a sufficient quantity: it will be best to make the bed
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intirely above ground for the conveniency of lining it when the heat begins to decline ; also the sun and air will have the better advantage, which will much promote the fermentation of the bed. In laying the dung into a bed, it should be shook into the required form with a fork, but not pressed hard, as it is better to let the dung settle of itself than to beat or tread it down ; for when it is made hard the air will be excluded too much, especially if the dung is short, and thereby the fermentation will be stopped. Likewise if the dung be very new and strawey, hard pressing will make it burn for a considerable time, and afterwards it loses its heat all at once ; but when lightly made up, the dung will settle gradually, and keep a regular fermentatation a long time, which is what is required of it,

The back or north side of the bed should be three or four inches higher
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the front part, which will give the glaffes a greater flope towards the fun, and thereby collect its rays more powerfully, to the great advantage of the early plants. When the bed is finished, the frames and glaffes fhould be placed thereon directly, particularly if it is early in the feafon, for much rain or fnow might chill the bed: obferve alfo to give much air to the bed, by tilting up the lights, that the fteam which arifes may more readily pafs off.

After the bed has been made about ten or twelve days, a kind of spawn, vulgarly called toad ftools, will come up on its furface; when thefe appear, it is a fign that the bed will foon be in a proper temperature of heat to receive either feeds or plants. As thefe direCTIONS concerning the beds are adapted for both, where early cucumbers are raifed, there is no neceffity to make a bed for melon feeds, as the fame will ferve for both.

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The first season for sowing these seeds is about the beginning of February, which is early enough to have a good crop.

When the plants are up, and their first or seed leaves are fully expanded, they should be carefully taken up and planted into small pots, two plants in each. Let them have a good rich earth to grow in, of such sort as is directed for the pines.

When the melon plants are thus put into pots, they should then be plunged to their rims in the bed, and care should be taken to admit as much air to them as the heat of the bed will reasonably allow ; likewise the glasses should be well covered on nights and in very bad weather, to preserve a kindly warmth in the bed. It is not so proper at this early season, to water the plants immediately after their first planting ; for if the bed contains a growing heat, which it should do, there will be a sufficient

quantity of moisture to serve them for some time.

The plants having put forth two rough leaves, the centre of each plant should be cut or pinched off when the third rough leaf is about the size of a shilling; in doing this, care should be taken that the joint is not wounded which the second leaf proceeds from.

Soon after this operation is performed, the plants will put forth new branches, which the gardeners call runners; the time they take up in growing thus much will be about five weeks, at which time the bed should be made ready which is intended to receive them, according to the former directions; observing to proportion the time of the dung working, and the bed coming to a proper temperature, so that the plants may not wait for the bed, after they have arrived to the age and size above mentioned.

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When the bed has lain its full time, and the violent heat passed off, which may be known by thrusting a stick into it and feeling its warmth, then is the time to lay the earth on about two inches all over, to keep down the steam of the dung; raising a hill of it in the middle of each light about fifteen inches thick.

The bed being thus prepared, it will be proper to wait two or three days, that the earth may be thoroughly warmed; air also should be admitted, that the steam may pass off, which, if retained, might be prejudicial to the plants. These necessary precautions attended to, turn the plants carefully out of the pots; place two plants on each hill, without disturbing the ball of earth about their roots; then give them a little water, which has stood in the bed ten or twelve hours to take off the chill; observing to cover the glasses at night with mats, and admitting

admitting a little air into the frame when the bed is in full strength ; the plants should also be shaded from the sun in the middle of the day, till they are well rooted in the fresh earth : fresh air should likewise be admitted at all opportunities, that the plants may grow strong and vigorous ; for when they are in a growing state, they should be kept on. When the bed begins to decline its heat, fresh horse-dung should be added to the sides of the bed ; but it must be done with caution, lest the steam should pass into the bed immediately under the bottom of the frame ; for a rancid steam will destroy the plants ; which almost every young gardener has experienced, who has had the management of hot-beds.

In order to prevent this mischief, the following precaution should be used : When the bed is lined with new dung as high as the frame, there should be some spits of earth laid on it, about four
 inches

inches thick ; this should be trod close ; then lay on it damaged hay, dry litter, or dry fern, up to the top of the frame, When this lining declines, add some fresh to it, and turn it together ; this will renew the heat.

When the fibres of the plants begin to appear through the hills of earth, the bed should have earth laid over it, nearly as high as the hills ; as these should be highest, to preserve the main stem from being too moist ; for, in watering, if the principal stem receives much wet, it is apt to decay ; so that the best way to water melon-plants is, to let them have it to their young fibres still as they advance, and to keep the main stem and old roots as dry as possible.

As the runners advance, observe to lay them regular, so that they may spread the bed at equal distances. When the fruit appears, many of them drop off soon after : this is owing to the too great
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quantity of sap the bunches contain, which destroys the fruit. In the time of its pregnancy, this glut of sap depriving the farina of the male blossoms from performing its proper office on the pistils of the fruit-bearing flowers, occasions this defect. To prevent therefore the sap from flowing too freely into the fruit, encourage it to continue its course into the luxuriant branches, by turning carefully the small fruit-bearing ones so that their ends may incline towards the main stem. These small branches should be turned before the fruit-bearing flowers are expanded ; for this method will assist nature, which is the chief design of gardening.

Many people stop these branches a joint or two beyond the fruit, in order to make it stand. This practice is not amiss, with respect to those shoots which are very weak ; as, by this means, they will produce lateral branches for fruit :

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but this will not set the fruit; for stopping a branch will draw the sap; which is contrary to setting the fruit: so that those branches which the fruit is expected to perfect themselves upon, should not be stopped until the fruit is as big as a large walnut; neither should too many of the small branches be shortened, for by so doing, the course of the sap will be turned into a wrong direction, to the prejudice of the crop.

When the fruit is fairly set, the branches which they grow on may be turned into their former position; by which means the sap will find a freer passage to nourish the fruit. It will also be proper to lay a piece of tile or slate under the fruit, to keep it from the earth; and, at the time of the fruit's setting, it is necessary to give as much air as the weather will admit of; for the air will much assist the male-blossoms to perform their office; which is more na-

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tural than the common artifice the gardeners frequently make use of. It will also be proper to keep the plants as dry as possible at this time, and to preserve a kindly warmth in the bed.

By this management, the fruit will swell wonderfully in a little time ; when it will be necessary to give the fibres some water round the insides of the frame, keeping the middle dry.

When the fruit are full grown, they should be turned twice a week, that each part may receive an equal benefit of the sun ; also to admit as much air as the season will allow ; which will greatly add to their rich flavour.

The time when the fruit is ripe may easily be known, by its cracking in the part where it is affixed to the stalk ; by its green colour inclining to yellow ; and by its emitting a fragrant odour. Upon these appearances, the fruit may be cut : which should be done in the morning ;
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for if melons are cut when the sun shines hot on them, they will taste flat and insipid. Neither should they be permitted to remain on the vine till they are over-ripe; for then they are good but for little. Therefore at the time of the fruit ripening, they should be examined every day.

The best sort for the first crop of melons is the Romana; they being less tender than the Canteleupe: but the last mentioned is the finest flavoured of all the various kinds of melons.

About the first week in March is soon enough for the seeds of Canteleupe melons to be sown. The plants, if well managed, will be fit to be put out for good at about a month old. But as this sort require more room to extend themselves than most of the other kinds, and as there is not sufficient room for the vine in the common contracted melon-frames, I therefore propose that a brick

pit be erected, about seven feet wide, the length at pleasure, and covered with proper glasses : it will not be improper to have a flew in the back-wall, that gentle fires may be made occasionally for about a month after the plants are put out ; which will be of great service to warm the air in the pit.

In making the hot-bed in this place, the lower half should be hot dung, and the upper part fresh tan. The dung should be put in a week before the tan, that it may be in readiness to strike a heat into the latter ; which must not be laid on at once, but at two or three different times ; by which means the heat will rise more easily.

When the bed is in good order to receive the plants ; which it should be by the time they are a month old ; then put under each light a large hill about one foot six inches thick ; then cover each with a bell-glass to draw up the heat ;
also

also make two or three gentle fires, to warm the air. When the bed is thus prepared, turn the plants out of the pots they have been raised in, and place two on each hill; then give them a little water, and let them be covered with the bell-glasses; the glass lights should also be kept over them, observing to raise the bell-glasses a little every day, to admit air to the plants. If two are on each hill, the weakest may be cut away when they begin to grow; as one plant to a light will be sufficient to fill the pit. Observe to continue gentle fires on nights when the external air proves cold.

As the plants advance in growth, the bed should be earthed up till it is almost as high as the hills: and it will not be improper to lay moss all over the earth, which will keep it from drying too fast; for the less water is given to a melon plant, the better it will succeed

ceed ; provided, however, they do not absolutely want moisture.

When the plants have grown so much, that they cannot be contained under the bell-glasses, these may be taken away, and the plants regularly spread out, and managed according to the former directions.

The last crop of melons is raised under bell-glasses, or oiled paper. The seeds should be sown the last week in March. When the plants are about a month old, the beds should be ready to receive them ; for if they are continued any longer at this season, without being planted where they are to perfect their fruit, the consequence will be, that they will draw up so weak as not to be worth putting out. The beds they are to be planted in, should be about four feet wide, and ranged parallel to each other ; allowing a space of three feet between each bed : this space serves to contain
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hot dung when the heat of the beds has declined, whereby the warmth is continued. If these beds are one foot six inches high, when settled, it will be sufficient. Care must be taken not to lay the earth on the beds too soon after they are made ; for if the dung is good, it will be very hot at this season of the year ; and if the earth is burnt by the violence of the dung-heat, the plants will not thrive in it. The beds being in proper order, the plants may be turned into them, in the manner before shewn, and then covered with the bells or papers ; giving proper air in the day-time, and protecting them with mats, &c. if the nights are cold ; which will greatly promote their growth, and give them strength.

When the plants are so far advanced in growth that the glasses cannot contain them, then the bells should be raised on bricks, or forked sticks, and the plants

trained regularly from under them; the covering should be continued on nights and in heavy rains; but in temperate weather they may be omitted.

The other parts of their management being not different from those raised in frames, it would be therefore unnecessary to repeat it.

In respect to the seeds of melons, they who are desirous of success in the propagation of this plant, must make choice of those only which are found in the largest and best flavoured fruit. They should not be sown till they are two or three years old; as the plants from new seeds grow too luxuriant to be very fruitful.

F I N I S.

